

# LOWER DENSITY, THERMOFORMABLE, SOUND ABSORBING POLYURETHANE FOAMS

## Abstract

Polyurethane foams formed under vacuum (below atmospheric pressure) conditions using primarily graft polyether polyols reacted with primarily toluene diisocyanate have lower densities (up to  $1.3 \text{ lb/ft}^3$ ), lower hardness ( $\text{IFD}_{25}$  = up to 50 lbs), and exhibit superb thermoformability and fire retardance while retaining good sound insulating characteristics. The foam-forming ingredients are mixed together and foamed under controlled pressures in the range 0.5 to 0.95 bar (absolute). Such foams taken alone, or in combination with a barrier layer to form a laminate, are thermoformed to create a sound insulator for a motor vehicle instrument panel.